of the extremities were involved. v. Bechterew reports two cases like those of Strümpell and Marie, in which ossification of the large joints and a rheumatic etiology were noted, and the progress of the disease was ascending, while kyphosis and root symptoms were unimportant or absent.

In the third paper a typical case of v. Bechterew's form is described. Kyphosis of the upper thoracic and lower cervical vertebræ, without prominence of individual vertebræ and without compensatory lordosis; half-flexed and prominent knees when the patient was in the standing position, sensitiveness of parts of the spinal column on percussion, almost complete immovability of the spinal column in backward and lateral movement, breathing almost entirely of the abdominal type, atrophy of the muscles about the scapula and in the upper extremities, exaggerated tendon reflexes of the lower limbs, were the chief features of the case. The joints of the limbs were not affected. Syphilis seemed to have etiological importance.

v. Bechterew has obtained a necropsy in one of his cases of rigidity of the spine. He found that the bodies of the vertebræ in the upper thoracic region were in direct contact on their anterior surfaces. Degenerated roots, especially posterior ones, were found in the lower cervical and upper thoracic portions of the cord, and to a less extent in lower levels. The posterior and anterior columns presented degeneration. The pia was thickened on the posterior part of the cord in the upper thoracic region. The kyphosis, the flattening of the thorax and the weak thoracic breathing were believed to be due to a paretic condition of the muscles supporting the vertebral column,—a condition resulting from degeneration of nerve roots. The changes within the spinal column were also thought to be the result of the degeneration of the posterior roots, and this degeneration of the roots was attributed to chronic meningitis and adhesion of the dura to the spinal ganglia. The kyphosis and rigidity of the vertebral column were regarded as secondary in origin. The primary lesion was a localized affection of the spinal membranes. SPILLER.

187. SOME UNCERTAINTIES IN THE DIAGNOSIS OF CEREBRAL TUMOR. Ernest Septimus Reynolds. (British Medical Journal, No. 1989, page 333, Febr. 11, 1899.)

The author groups the uncertainties as follows:

A. DISEASES WHICH MAY SIMULATE BRAIN TUMOR.

Chlorosis, when there is optic neuritis, intense headache and perhaps hysterical motor and sensory symptoms. *Uremia*, with intense headache, optic neuritis, convulsions, especially if they are unilateral, and coma. *Chronic lead poisoning*, if associated with lead encephalopathy, convulsions, delirium, severe headache, optic neuritis, coma, and possibly acute mania. The difficulty is enhanced if there be paralysis of the cranial nerves, which may occur from plumbism. *Hysteria*, when there is headache, vomiting, convergent strabismus and various motor and sensory disturbances. *Reflex epilepsy* caused by irritation of the dura mater, or pressure of old scars, or other irritation in the region of the fifth nerve. *Anomalous cases* in which tumor was apparently present, but in which patients have recovered without an operation, or have recovered after the operation at which nothing was found. Under this head the author relates what he considers "two remarkable cases." The first seems to have been a plain case of infantile cerebral paralysis with localized fits extending over many years, and the second was very apparently a case of arterio-sclerosis, or at least one of senile epilepsy with no particular features, and the reviewer can scarcely agree with the writer that the nature of the irritation in these two cases seems a mystery. *Syphilis*, with severe headache and implication of the cranial nerves, especially if there be syphilitic meningitis, local convulsions and optic neuritis. *Meningitis, abscess*, and *polioencephalitis* may simulate tumor.

B. SYMPTOMS DUE TO BRAIN TUMOR MISTAKEN FOR OTHER DISEASES.

Hysteria, when the tumor occurs in young girls, and there is no optic neuritis and no paralysis of the cranial nerves. *Reflex epilepsy*, if there has been an injury or tumor of a nerve. *Hydrophobia*, if there has been a comparatively recent dog bite. *Senile dementia* may be simulated by tumor in old people. When symptoms of tumor come on suddenly, they may be assigned to *circulatory changes*. If *ear disease* be present, or has existed, the symptoms may be ascribed to abscess or meningitis.

C. UNCERTAINTY IN THE DIAGNOSIS OF THE POSITION IN CEREBRAL TUMOR.

The uncertainties enumerated are too familiar to all neurologists to require repetition.

D. UNCERTAINTY IN THE NATURE OF THE TUMOR.

This is so notorious as scarcely to need mention. PATRICK.

188. UEBER MAGEN-, DARM- UND HARNBLASENCONTRACTIONEN WAHREND DES EPILEPTISCHEN ANFALLS (Concerning Contractions of the Stomach, Intestines and Bladder During the Epileptic Attack). W. Ossipow (Deutsche Zeitschrift für Nervenheilkunde, Vol. 15, Nos. 1 and 2, p. 94).

Ossipow performed a number of experiments on dogs to determine the action of the abdominal viscera during the epileptic attack. The convulsions were produced by faradic irritation of the motor area of the brain, or by the intravenous injection of the essence of absinthium. The abdomen was opened and the contractions of the viscera observed. His conclusions are:

1. Contractions of the stomach, intestines and bladder occur in the epileptic attack, and usually persist after the attack is over.

2. Contractions of the stomach occur in about 50 per cent. of the attacks, and are observed chiefly in the cardia and pylorus.

3. Contractions of the small and large intestines and of the bladder are constant phenomena during the epileptic attack.

(a) Duodenal contractions begin in the clonic period of the attack, or shortly after the cessation of the spasms of the striated muscles.

(b) Contractions of the small intestine begin in about the middle of the clonic period of the epileptic attack.

(c) Contractions of the large intestine begin either in the tonic or the clonic period, more commonly at the commencement of the clonic period.

(d) Contractions of the bladder occur usually at the commencement of the tonic period.

4. The contractions of the intestines and bladder are very vigorous, and appear as long-continued spasms. This is especially true of the contractions of the large intestine and bladder.

5. Relaxation of the intestines and bladder, of longer or shorter duration, usually occurs between two vigorous contractions, and after the cessation of all epileptic contractions.

6. The phenomena relating to the stomach, intestines and bladder, observed in the epileptic attacks produced by faradic irritation, are not the result of the local irritation of the cortical centers of the stom-